



March 22, 2001

Ms. Carol Allen
 Permit Services Division
 Bay Area Air Quality Management District
 939 Ellis Street
 San Francisco, California 94109

Subject: Major Facility Review Permit Application No. 17438
 Keller Canyon Landfill, Plant #4618
 Contra Costa County, California

Dear Ms. Allen:

Below please find our comments on the Bay Area Air Quality Management District (BAAQMD) Draft Major Facility Review application for Keller Canyon Landfill dated February 21, 2001:

GENERAL COMMENTS

It appears that the BAAQMD has set forth additional monitoring, reporting, and/or recordkeeping requirements in the Title V permit for the Keller Canyon Landfill (KCLC) that do not exist in current Permits-to-Operate (PTO's) for the site and are not required by applicable regulations. In several instances, the justification provided for modifying the existing PTO conditions is so that the KCLC Title V permit will be more consistent with other Title V permits issued in the District. We do not agree with this logic and believe that it is inconsistent with previous permitting approaches in the BAAQMD. Each landfill site is a unique air pollution source and should be treated as such. Permit conditions that are appropriate at one site may not be reasonable for a second site. It has been our understanding that Title V permits were not intended to create new regulatory requirements; rather they were just to compile all existing requirements into one site-wide permit. Therefore, KCLC hereby requests that the BAAQMD provide adequate regulatory justification for all changes made to existing PTO conditions and any newly created requirements. In addition, we request a discussion as to why these requirements were not previously placed in PTO's for the site and why the development of a Title V permit necessitates their creation.

Standard Conditions

Part J provides a reference to Table II-A of the Title V permit (under Section II. Equipment), which contains maximum allowable capacities for various on-site sources. For Source S-1 (the landfill), a capacity limit is established for the maximum design capacity of the landfill (64 million cubic yards or 38.4 million tons); however, it is unclear whether this is a refuse limit or an air space limit. Part J would appear to indicate that the limit provided is for refuse capacity since only waste materials are listed under the "make or type" column of Table II-A. Part 1 of Condition #17309 (under Section VI. Permit Conditions) indicates that this limit is for both refuse and cover materials, which is indicative of an air space limit. KCLC hereby requests that the Title V permit be revised to clarify this issue. Based on our Solid Waste Facility Permit, KCLC is permitted to accept up to 64 million cubic yards or 38.4 million tons of refuse. Therefore, the Title V permit should be revised to reflect this fact.

Table II-A also contains capacity limits for the 2 on-site blowers. Landfill gas (LFG) blowers do not produce regulated emissions, and, therefore, should not be subject to capacity limits in a Title V permit. The New Source Performance Standards (NSPS) and Regulation 8, Rule 34 require that a landfill maintain adequate gas mover equipment in order to handle the maximum amount of recoverable LFG at the site. These regulations present a situation where blowers must at times be upgraded to meet NSPS/Rule 34 requirements. The presence of a capacity limit for blowers would necessitate a modification to the Title V permit for any changes to blower capacity even though such changes would not increase emissions or change any applicable requirements. It would also be an obstacle to mitigating regulatory exceedances under the NSPS/Rule 8-34, for which modifications to the LFG collection and control system (GCCS) are necessary. KCLC hereby requests that the capacity limit for the LFG blowers be removed from Table II-A.

Part K indicates that the Chemical Accident Prevention Provisions of 40 Code of Federal Regulations (CFR) Part 68 is applicable to the Keller Canyon Landfill. KCLC disagrees with this interpretation of the regulation and requests that this part be removed from the Title V permit. 40 CFR 68 regulates facilities, which store and/or use certain toxic and flammable materials in quantities above specified threshold amounts. KCLC knows of no regulated toxic or flammable materials present on-site in quantities exceeding the regulatory thresholds. Furthermore, the applicability of 40 CFR 68 to landfill sites has already been discussed with the U.S. Environmental Protection Agency (EPA), who indicated that the 40 CFR 68 program was clearly not intended for landfill sites. KCLC is aware of no instances where 40 CFR 68 has been listed as an applicable requirement within a Title V permit for a municipal landfill in any other jurisdiction in the country, including other jurisdictions in EPA Region 9.

Equipment

Table II-B indicates that the on-site enclosed ground flare (abatement device A-1) shall burn LFG exclusively. Please note that propane is burned in the flare for lighting the

flare pilot during start-up. Table II-B would appear to disallow this occurrence. Therefore, KCLC requests that the Title V permit be revised to allow the combustion of LFG and propane during start-up and for lighting the flare pilot.

Source-Specific Requirements

Tables IV-A through D indicate that many of the requirements of Rule 8-34 are not federally enforceable even though they are based on federal NSPS requirements. KCLC understands that these requirements cannot be listed as federally enforceable until the EPA approves the newest version of Rule 8-34. However, we believe that it should be made clear in the Title V permit that these requirements, and any other requirements awaiting State Implementation Plan (SIP) approval, will become federally-enforceable when the EPA issues SIP approvals for the various rules. This would provide additional clarity to the permit and avoid administrative modifications in the future. It is our understanding that this technique has been used for other Title V permits.

Permit Conditions

Condition #16462---

Part 2 of Condition 16462 for Source S-3 creates a new monitoring requirement for green waste unloading, stockpiling, and loading operations that does not currently exist in the PTO for the site. No written justification for this permit change is provided in the Title V permit. The part lists Section 301 of Rule 6 as the basis for the requirement; however, Rule 6 contains no such requirement as listed in Part 2. In particular, KCLC finds that the requirement to visually observe all unloading, stockpiling, and loading operations to be onerous and unnecessary. The existing requirements in Part 2 to control visible dust emissions through watering have been successful in limiting dust emissions from green waste operations. Therefore, we would like to see this requirement removed from Part 2 and as an alternative, KCLC would agree to some form of periodic visual monitoring of green waste operations.

Condition #17309---

Part 3 of Condition 17309 for Source S-1 listed the allowable daily cover applications that can be used at KCLC. Although this part is contained within the existing PTO for S-1, we request that it be modified to provide more flexibility for the use of alternate daily cover (ADC) on-site. KCLC requests that Part 3 be revised to require the use of cover materials approved by the California Integrated Waste Management Board (CIWMB) without limiting the types of ADC. This will prevent the need to modify the Title V permit each time we use another form of ADC. While we understand that the use of a new ADC, which results in additional odors, increased emissions, new emissions, and/or creates a nuisance, would necessitate the modification to the PTO and Title V permit for the site, we do not agree that we should be required to get BAAQMD approval for using a new ADC does not cause any of the above impacts to occur. If the use of a new ADC

does not result in any of the above occurrences, it would not have any air quality issues associated with it and should be allowed to occur without any regulatory approval.

Part 11 of Condition #17309 for S-1: A Form P-101B (including calculations) was submitted on February 5, 2001 for a reduction in the number of scraper trips from 50 to 45 per day (calculated on an annual basis) and an increase in the total of transfer truck trips from the current 140 to 175 per day (calculated on an annual basis). A response from the BAAQMD regarding the proposed changes is pending.

Part 18 of Condition #17309 for S-1 indicates that wells shall not be shut-off, disconnected, or removed from service unless compliance with Sections 113, 116, 117, and/or 118 of Rule 8-34 are met. KCLC would like to recommend a revision to this part to allow wells to be shut-off, disconnected, or removed from service if such a practice is allowed in the LFG collection and control system (GCCS) design plan approved for the facility under 8-34-408 or if a less than continuous operation petition is filed and approved under 8-34-404.

Parts 20.a and 20.b of Condition #17309 for S-1 outline specific design specifications for the GCCS at the Keller Canyon site. Although this condition is contained within our existing PTO, KCLC is concerned with the BAAQMD's creation of a permit condition requiring certain design elements to the GCCS. If KCLC is to be held responsible for NSPS and Rule 8-34 compliance, we must have latitude in designing our GCCS in a manner we think will meet the standards. Furthermore, the NSPS clearly delineates the Professional Engineer (PE), who has certified and stamped the Design Plan document, as the person qualified to make decisions on GCCS design issues. The NSPS and Rule 8-34 are ultimately performance-based requirements, and if we can meet those requirements with less extraction wells than required under Parts 20.a and 20.b, then we should be allowed to do so. As such, KCLC requests that this part be revised to allow design of GCCS in accordance with the recommendations of a PE, as required by 8-34-408.

Part 20 also requires an Authority to Construct (ATC) be obtained for increasing or decreasing the number of wells listed in Part 20 or significantly changing any existing wells. KCLC feels that this requirement is very restrictive and will hinder our ability to comply with the repair schedules for wellhead or landfill surface excesses, as required by 8-34-414 and 415. If modifications to existing wells and/or the installation of new wells are required to achieve compliance with 8-34-414 or 415, KCLC would be faced with a situation where we could be found non-complaint with 8-34-414 or 415 while waiting for issuance of an ATC. In the 120-day time frame required to meet the repair schedules, the following events would have to occur (with some being dependent on the results of the others): (1) engineering study, (2) development of design plans and specification, (3) preparation of an ATC application, (4) review of that application by the BAAQMD, (5) issuance of an ATC, (6) bidding and awarding of the construction project, (7) purchase of equipment (if a new flare is needed, the lead time could be over 3 months alone), (8) installation of new LFG system components, (9) start-up of system, and (10) retesting to determine if compliance has been achieved. All of this would have to be accomplished in 120 days, or we would be out of compliance with Rule 8-34 and the NSPS. Because of

this, instead of the restrictive requirement present in Part 20, KCLC requests that the part be revised to establish a minimum number of LFG extraction wells that must be operated on-site. We would then be allowed to add new wells or modify existing wells without requiring changes to the PTO or Title V permit for the site, which would significantly decrease the administrative burden on KCLC and the District. KCLC would agree to a requirement to notify the BAAQMD (in writing) as to any additional wells that have been added. In our opinion, it would be in everyone's best interest to create a Title V permit that allows the Permit Holder to expediently make changes to the LFG system to address compliance issues.

Part 23 of Condition #17309 for S-1 revises the current permit condition for minimum flare temperature to that contained within the NSPS; however, the language in Part 23 is confusing. The phrases "flue gas temperature" and "combustion temperature" appear to be used to represent different temperature readings for the flare; however, it is unclear if this was intended. The minimum temperature requirement appears to be established based on NSPS requirements, which allow flexibility for operating a flare at or slightly below the temperature from the most recent source test where the destruction efficiency requirement was met. The inclusion of the original 1400°F temperature limit completely eliminates the flexibility allowed by the NSPS. It would seem that achieving the required organic compound destruction efficiency at the lowest temperature possible would be in the BAAQMD's best interest since it would result in a reduction of thermally-derived nitrogen oxide (NOx) emissions while having no adverse effect on organic emissions. Please note that the NSPS allows temperatures to go 28°C below the most recent tested temperature, which equates to approximately 82.4°F. KCLC cannot identify the regulatory basis of the 50°F reduction in temperature that is being allowed by Part 23. In summary, KCLC requests that Part 23 be revised to contain a temperature requirement that mimics the NSPS.

Part 29 contains the flare destruction efficiency requirement from the NSPS, which includes an allowance for a flare outlet concentration of non-methane organic compounds (NMOCs) of 20 parts per million by volume (ppmv) as hexane. This part appears contradictory to the requirement of Rule 8-34, which only allows an outlet concentration of 30 ppmv as methane (about 5 ppmv as hexane). Both requirements should be listed in Part 23 for clarity, with a notation that the more stringent Rule 8-34 requirement will supercede the NSPS requirement on July 1, 2002. Also, the federal enforceability element to each requirement would have to be included.

Part 30 requires that annual emissions of NOx, carbon monoxide (CO), and POC be calculated by using hourly source test data and the maximum firing rate of the flare for comparison with annual emission limits for those pollutants. KCLC disagrees with this methodology. It is our position that it would only be an exceedance of the annual emission limits if the actual annual emissions of NOx, CO, and/or POC for any 12-month period were in exceedance of the permit conditions. Therefore, emissions for comparison to permit limits should be calculated with the source test data and the average annual firing rate for the 12-month period proceeding the source test.

Part 32 sets limits for maximum concentrations of toxic air contaminants (TAC's) in LFG at the facility. If these concentrations are exceeded, a screening risk assessment must be conducted to determine whether the risks fall below regulatory thresholds. What is the basis for the selection of these limits? Are they based on the maximum concentrations of the pollutants that would be allowed before risk thresholds would be exceeded?

Part 33 appears to present some contradictory language on the manner in which POC emissions should be determined. Part 30.a indicates that uncontrolled POC emissions should be determined using the methodology outlined in the current version of AP-42. AP-42 indicates that POC's comprise 39% of the total NMOCs at landfills while Part 33.e states that POC's should be assumed to be equal to NMOCs. The latter requirement contained within Part 33.e is incorrect and results in an overestimation of POC emissions. NMOCs from LFG include various non-POCs as defined in Rule 8-1, including methylene chloride, 1,1,1-trichloroethane, and the various chlorofluorohydrocarbons (CFC's). Acetone is also present in LFG in large quantities and is an NMOC, which many jurisdictions have defined as non-reactive. Since Section 208 of Rule 8-1 has not been revised since 1994, it may not be current as to the status of acetone as a potential POC. These non-POC's can comprise, in some instances, a significant quantity of the NMOCs; therefore, including them as POC's could severely overestimate POC emissions. As such, KCLC requests that Part 33.e. be removed from the Title V permit and that the methodology in AP-42 be used exclusively to determine POC emissions, as stated in Part 33.a.

Part 33.f also requires that the landfill assume that collection efficiency is 75% when determining fugitive POC emissions of LFG. 75% is default value in AP-42 that should be used only in instances when no site-specific data are available. It is possible for a landfill to achieve greater than 75% collection efficiency with a comprehensive LFG system (AP-42 indicates as high as 85%). As such, KCLC recommends that Part 33.f be revised to allow the use of a 75% collection efficiency or a site-specific value determined by comparing LFG generation rates to actual LFG recovery rates.

Part 34 contains a newly added sulfur monitoring (in raw LFG) requirement that is being required to demonstrate compliance with Rule 9-1. We have not sited where Rule 9-1 contains requirements to conduct monitoring for sulfur dioxide. Also, the frequency of monitoring also appears to be overly stringent. Compliance monitoring for other emission parameters, such as NOx and CO, is only required to be demonstrated as part of an annual source test. KCLC requests that this requirement be conducted as part of an annual source test, consistent with other criteria pollutant emissions.

Part 36 and 37: While we appreciate the Districts efforts to rewrite Part 36 in the February 6, 2001 correspondence, we still take exception to the formula which assumes 100% volatility of contaminated soils within one hour of reaching the landfill. In the review that was conducted by Sierra Research titled "Technical and Regulatory Analysis Related to Handling of VOC Soil and VOC Contaminated Soil" (Attachment A), they have proposed that 53% be used instead of 100% for calculating the emissions rates.

Applicable Limits and Compliance Monitoring Requirements

Please note that several of the above permit changes will affect the requirements contained within Tables VII-A through VII-D. We therefore request that these tables be revised to reflect the above changes.


Many of the applicable limits and compliance monitoring requirements from the NSPS and Rule 8-34 (e.g., wellhead requirements, dangerous areas exempt from surface emissions monitoring, etc.) can be modified by an approved GCCS design plan, which proposes alternatives to these requirements. As such, KCLC requests that a general condition be added to the introduction prior to the table stating this fact and allowing alternative methods, when approved by the APCO and/or the EPA, as appropriate.

Test Methods

Many of the regulatory requirements applicable to the Keller Canyon site allow the proposal of alternate test methods for use in compliance monitoring and testing. This is especially true of the NSPS where a variety of alternate test methods have been proposed and approved by EPA (e.g., field testing in lieu of EPA Method 3A or 3C for oxygen and nitrogen at the wellhead). As such, KCLC requests that a general condition be added to the introduction prior to Table VIII stating this fact and allowing alternative methods, when approved by the APCO and/or the EPA, as appropriate.

If you have any questions, please contact Norm Christensen or myself at (925) 458-9800.

Sincerely,



Lochlin M. Caffey
Environmental Manager
Keller Canyon Landfill

cc: Norm Christensen / KCLC
File

ATTACHMENT A

Technical and Regulatory Analysis Related to Handling of VOC Soil and VOC Contaminated Soil

Keller Canyon Landfill Company

1. Current Permit Conditions

In a letter to Norm Christensen dated February 6, 2001,⁽¹⁾ Carol S. Allen proposed revisions to Permit Condition #17309, Parts 36 and 37, which set forth the soil-handling requirements established by the Bay Area Air Quality Management District (District) for the Keller Canyon Landfill (KCLC) facility. Soils received at KCLC must be handled differently depending on their content of volatile organic compounds (VOC's).

The purpose of the proposed conditions described in Parts 36 and 37 is to ensure that KCLC complies with the District's prohibitory Regulation 8-2-301, which limits emissions of VOC's to 15 pounds per day.

In Part 36, VOC emissions are to be calculated according to the equation,

$$E = QHC \times 10^6, \text{ where}$$

E = VOC emissions, pounds per day;

Q = amount of soil received, pounds per day; and

C = VOC concentration in the soil, in parts per million by weight as total carbon.

The District acknowledges that the above equation is based on the assumption that all of the VOC in the soil evaporates into the atmosphere during a single day of handling and exposure to the atmosphere. The District recognizes that this assumption may not be entirely realistic, but believes it simplifies record keeping and compliance demonstration.

Permit Condition 17309 requires soils containing VOC's to be handled differently according to their VOC content. Part 36 defines "VOC soil" as soil containing VOC's at concentrations of 50 ppm carbon by weight (ppmwC) or less. For VOC soil there are no restrictions on how it may be handled at KCLC.

For "contaminated" soil, having VOC content greater than 50 ppmwC, or soil of unknown composition but suspected of containing VOC, Part 37 imposes several requirements on KCLC, including but not limited to the following:

! Provide verbal notification to the District of intent to accept contaminated (or suspected) soil, at least 24 hours in advance of receiving the soil. This notification is to include amount of soil, degree of contamination, and type or source of contamination.

Limit handling of such soil to no more than two onsite transfers per soil lot

Limit exposed surface area of any active storage pile (including active face at a landfill) to 6,000 sq ft, and minimize VOC emissions from such soil by using water sprays, vapor suppressants, or approved coverings.

After spreading contaminated or suspected soil on the landfill active face, cover it on all sides with specified thicknesses of clean compacted soil (six inches), compacted garbage (twelve inches), or compacted green waste (twelve inches), within one hour after the soil was first dumped from the truck at the tipping area.

KCLC may accept the soil analysis on the soil load manifest, or test the soil for organic content after its receipt at the facility.

Maintain records for each load of soil received, including soil lot number, arrival date, VOC concentration. A checklist or other method should be employed to show that proper procedures were followed during on-site handling.

2. Current Soil Handling Practice at KCLC

Trucks carrying soil from waste generators to KCLC dump their loads onto a deck above the active workface within ten minutes of their arrival at the facility. Immediately after the dumping, a bulldozer pushes the soil load downslope approximately 100 feet onto an existing 60 ft H 100 ft layer of compacted trash, i.e., garbage or green waste. Within one hour, this layer of new soil is covered with another 2-foot "lift" of trash, which is then compacted.

Typically, soil VOC content is measured sometime before shipment by the waste generator, who enters the VOC concentration and a load identification code on the manifest that accompanies each load. It is the VOC concentration on the load manifest that KCLC uses in the equation shown in Section 1. above to calculate daily VOC emissions. ⁽²⁾

3. Air Emissions From Soil Handling

A literature search yielded several reports ⁽³⁻⁶⁾ pertaining to air emissions from soil handling. Reference 6 appeared to contain information that might be helpful in minimizing the amount of VOC emissions charged to soil handling operations at KCLC. Table 15 in Reference 6 presented the fractional VOC emission contribution of each of several steps in the process of excavating and removing contaminated soil. The following table summarizes the VOC emission fractions discussed in the EPA report.

Table 1 Remedial Activity Contribution to VOC Emissions Fractional Contribution of Activity - Site A	
Remedial Action	Emission Fraction
Excavation	0.1154
Exposure in Excavator Bucket	0.0449
Truck Filling	0.0670

Table 1 Remedial Activity Contribution to VOC Emissions Fractional Contribution of Activity - Site A	
Transport	0.6031
Exposure of Contaminated Soil	0.1695
Total	0.9999

Source: Reference 6.

For each step shown in the table, the emission rate was based on uncontrolled operations, e.g., no water spray during excavation or after exposure, and no tarp covering the soil while in transport.

The table indicates that the first four activities listed cause cumulative fractional VOC emissions of 0.8304, i.e., 83%, of the VOC content originally in the soil. Thus, for instance, if the original soil VOC content was 100 ppm, by the time that soil is excavated, loaded into a truck, and transported to, say, a landfill, its average fractional VOC content on arrival at the landfill will be only 17 ppm.

According to the equation in Part 36 ($E = QHC \times 10^6$, rearranged to the form $Q = E/(C/10^6)$), under current permit conditions, KCLC can accept 300,000 pounds per day (150 tons per day) of soil with a VOC content of 50 ppmC. If KCLC was permitted to reduce the VOC content of such soil by 83% due to handling and transporting, then 882 tons per day could be accepted.

The District rule on aeration of contaminated soils (Regulation 8, Rule 40) requires that excavation activities and active storage piles be controlled using water sprays and that tarps be used to cover loads during soil transport to disposal sites. To determine the control effectiveness of these measures on the uncontrolled VOC emission levels shown in the above table, we reviewed the EPA's report on the control of air emissions from superfund sites³. According to this report, water spray systems with additives are primarily a particulate control technique rather than a VOC control method. Consequently, the use of water sprays is assumed to have no control of VOC emissions during the first three activities shown in the above table (i.e., excavation, exposure in excavator bucket, truck filling). As discussed above, District Regulation 8, Rule 40 requires that soil truck loads be covered during transport to disposal sites. The EPA report discusses the VOC emission control benefits associated with using covers on soil storage piles. Depending on the type of synthetic material used as the soil cover material, VOC control effectiveness can range from poor to excellent with control efficiencies as high as 90%. However, the EPA report does not discuss the VOC emission control effectiveness associated with using synthetic traps to cover truck loads. Due to the difficulties associated with keeping traps air tight during truck hauling activities, it is likely that the VOC control efficiencies associated with this control technique are substantially lower than the levels reported in the EPA report for controlling storage piles. Therefore, the use of traps during truck hauling is assumed to have a VOC control level of 50%. Table 2 shows the revised VOC fractional losses corrected to account for the VOC control techniques required by Regulation 8, Rule 40.

<p style="text-align: center;">Table 2 VOC Emissions Fractional Contributions Adjusted for VOC Control Techniques in Regulation 8, Rule 40</p>	
Remedial Action	Emission Fraction
Excavation	0.1154
Exposure in Excavator Bucket	0.0449
Truck Filling	0.0670
Transport	0.3016
Exposure of Contaminated Soil	0.1695
Total	0.6984

As shown in Table 2, prior to arrival at KCLC, the VOC content of the soil has been reduced by approximately 53%. Using the equation in Part 36, under current permit conditions, KCLC can accept 300,000 pounds per day (150 tons per day) of soil with a VOC content of 50 ppmC. If KCLC was permitted to reduce the VOC content of such soil by 53% due to handling and transporting, then 320 tons per day could be accepted.

4. Conclusions

KCLC's handling of VOC soil and contaminated soil appears to be at least as protective of air quality as the requirements of the District's proposed permit. Such soils arrive at the facility, are dumped and spread expeditiously, and within an hour are covered with a layer of new trash. KCLC's practice of spreading higher "lifts" of trash (2 feet uncompacted) onto VOC soil and contaminated soil than are required by permit conditions (6 or 12 inches compacted) would seem to result in lower VOC emissions, but this would be difficult to quantify.

By accepting shippers' manifests as to VOC content of soil received, KCLC may be self-limiting its capacity for those soils. The alternative of measuring soil VOC content upon its arrival at Keller Canyon, using District-approved methods and instrumentation (which is an option under Permit Condition #17309, Part 37), may allow KCLC to accept greater quantities of VOC and contaminated soils.

Part 37 reads as follows, in part:

37. Handling Procedures for Soil Containing Volatile Organic Compounds
 - a. The procedures listed below in subparts b-l do not apply if the following criteria are satisfied. However, the record keeping requirements in subpart m below are applicable.
 - i. The Permit Holder has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the "contaminated" level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211).

The relevant sections of Regulation 8, Rule 40 are listed below

- 8-40-113 Exemption, Non-volatile Hydrocarbons: The requirements of all sections of this Rule shall not apply if the soil is contaminated solely by a known organic chemical or petroleum liquid and that chemical or liquid has an initial boiling point of 302 deg. F or higher provided that the soil is not heated.
- 8-40-205 Contaminated Soil: Soil which has an organic content exceeding 50 ppmw as measured using the procedure in Section 8-40-602, or soil which registers an organic concentration greater than 50 ppmv (expressed as methane, C1) when measured using the procedure in Section 8-40-604.
- 8-40-207 Organic Content: The concentration of volatile organic compounds measured in the composite sample collected and analyzed using the procedures in Sections 8-40-601 and 8-40-602.
- 8-40-211 Organic Concentration: The concentration of volatile organic compounds measured in ppmv (expressed as methane, C1) above the soil surface using the procedures in Section 8-40-604.

The procedures cited are found in the Manual of Procedures section of the rule. The procedure of interest in the KCL situation reads as follows:

- 8-40-604 Measurement of Organic Concentration: Organic concentration as specified in Section 8-40-205 shall be measured at a distance of three inches from the surface of the excavated soil with an organic vapor analyzer complying with 40 CFR Part 60 Appendix A, EPA Method 21 Section 3, "Determination of Volatile Organic Compound Leaks, Monitoring Instrument Specification," or any method determined to be equivalent by the United States environmental Protection Agency and approved in writing by the APCO or designee.

Section 3 of EPA Method 21 states that acceptable types of VOC detectors include catalytic oxidation, flame ionization, infrared absorption, and photoionization, and sets forth parameters such as sample flow rates, instrument response time, and calibration precision.

Another possible alternative is to reduce the VOC contents shown on shippers' manifests by the amount indicated in the literature and corrected for the VOC control techniques required by District Regulation 8, Rule 40 (i.e., 53%) prior to performing the VOC emission calculation.

References

- (1) Letter dated February 6, 2001, from Carol S. Allen, Permit Services Division, Bay Area AQMD, to Mr. Norm Christensen, Allied Waste Industries, Keller Canyon Landfill, re: Application Number 17438, Plant Number 4618.
- (2) Telephone conversations, January-February 2001, between Norm Christensen, Keller Canyon Landfill Company, and H. Anthony Ashby, Sierra Research, Inc.
- (3) *Control of Air Emissions from Superfund Sites*, EPA/625/R-92/012, U. S. Environmental Protection Agency, Office of Research and Development, Washington, DC, November 1992.
- (4) Air/Superfund National Technical Guidance Study Series, *Estimation of Air Impacts for the Excavation of Contaminated Soil*, EPA-450/1-92-004, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, March 1992.
- (5) Engineering Bulletin, *Control of Air Emissions From Materials Handling During Remediation*, EPA/540/2-91/023, U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, OH, October 1991.
- (6) Air/Superfund National Technical Guidance Study Series, *Development of Example Procedures for Evaluating the Air Impacts of Soil Excavation Associated With Superfund Remedial Actions*, EPA-450/4-90-014, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, July 1990.



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

July 2, 2001

Evelyn A. Freitas
1886 Lynwood Drive
Concord, CA 94519

Dear Ms. Freitas:

ALAMEDA COUNTY
Roberta Cooper
Scott Haggerty
(Vice-Chairperson)
Nate Miley
Shelia Young

CONTRA COSTA COUNTY
Mark DeSaulnier
Mark Ross
Gayle Uilkema

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
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Julia Miller
Dena Mossar

SOLANO COUNTY
William Carroll

SONOMA COUNTY
Tim Smith
Pamela Torliatt

Ellen Garvey
EXECUTIVE OFFICER/
AIR POLLUTION
CONTROL OFFICER

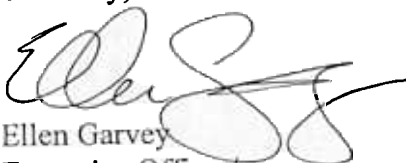
I am writing in response to your letter dated April 13, 2001, in which you provide comments on the proposed Major Facility Review (MFR) Permit (Application #17348) for the Keller Canyon Landfill operated by Allied Waste Industries, Inc. in unincorporated Contra Costa County.

I am glad that we had the opportunity to discuss your comments on the proposed permit during our meeting at Supervisor Mark DeSaulnier's office on June 4, 2001. We also look forward to participating in the multi-agency public meeting to review environmental issues related to this facility that was discussed at the June 4 meeting.

Your comments on the proposed permit are appreciated. MFR Permits are meant to accomplish the procedural task of identifying and recording existing air quality requirements applicable to regulated sources and to assure compliance with these requirements. Proposed MFR Permits are provided to the public (and to the U.S. EPA) for review to help assure that the final permit includes all applicable requirements.

Responses to each of your specific comments and questions are enclosed. If you would like to further discuss any of these issues, please contact Brian Bateman, Manager of the District's Toxic Evaluation Section, at (415) 749-4653.

Sincerely,



Ellen Garvey

Executive Officer/
Air Pollution Control Officer

EL:BB:bb

Enclosure

cc: Supervisor Mark DeSaulnier

**BAAQMD Response to Comments Received from Evelyn A. Freitas
on Proposed MFR Permit for Keller Canyon Landfill operated by
Allied Waste Industries, Inc. (A/N# 17348)
July 2, 2001**

Comment: Air tests needs to be done weekly. Testing locations should include points within the landfill, beneath the soil, at the landfill surface, and in the outdoor air at the edge of the landfill. Can these tests start soon?

Response: The primary concern regarding landfills, in terms of air pollution that may endanger public health, are emissions of non-methane organic compounds (NMOCs) and methane that are associated with generated landfill gas (LFG). The NMOCs in LFG include precursor organic compounds (POC) that contribute to photochemical ozone formation in downwind areas, and toxic air contaminants (TAC) that may increase health risks on a localized basis. Methane emissions can result in fires or explosions when they accumulate in structures on or off the landfill site.

In order to reduce the emissions of LFG, the Keller Canyon Landfill is required to have a well-designed and well-operated gas collection system. A dense array of LFG wells must be installed and continuously operated in waste disposal areas. Collected LFG is sent to a control device (currently an enclosed flare) that must destroy NMOCs by no less than 98 percent. An initial performance test was required for the flare to establish the NMOC destruction efficiency. From that point forward, the combustion zone temperature of the flare (a surrogate parameter for NMOC destruction efficiency) has been monitored and recorded continuously. The flare is also equipped with local and remote alarms, automatic combustion air controls, and an automatic start/restart system.

Because of the continuous parametric monitoring requirement for LFG control devices, most landfills are not required to conduct additional performance tests subsequent to the initial test. For example, under US EPA regulations (also adopted by the BAAQMD) only an initial performance test is required. More stringent testing requirements were established for the Keller Canyon Landfill, however, through the BAAQMD's New Source Review Rule. Performance tests on the flare (and gas characterization tests) must be conducted on an annual basis.

Other monitoring requirements for landfills address proper operation of the LFG collection system, and gas leaks from the collection system and from the landfill surface. Some of these monitoring requirements are monthly, while others are quarterly. In addition to these facility-based monitoring requirements, BAAQMD inspectors conduct periodic monitoring to determine compliance with applicable standards.

In addition to the BAAQMD's air quality requirements, landfills are also subject to the Resource Conservation and Recovery Act (RCRA) Subtitle D regulations. The RCRA regulations (40

CFR Part 258), enforced by the Local Enforcement Agency (LEA), establish a large number of operating requirements on landfills including perimeter monitoring for LFG migration in the soil. At the Keller Canyon Landfill, the LEA is Contra Costa County Environmental Health, and LFG perimeter monitoring is conducted on a quarterly basis.

In summary, the most important source of LFG emissions at the landfill (the control device) is subject to continuous monitoring. Other sources are subject to periodic monitoring that is conducted either on a monthly or quarterly basis. These monitoring requirements meet or exceed those established as being appropriate by US EPA in their Standards of Performance for Municipal Solid Waste Landfills and RCRA Subtitle D regulations. We believe that the testing requirements specified in the proposed MFR Permit are adequate to assure compliance with the applicable standards.

Comment: The landfill should be tested for contaminants in addition to methane. The following compounds not previously tested should be included: mercury, dioxin, PCB, chloroform, asbestos.

Response: The Keller Canyon Landfill is required to conduct gas characterization tests for ten "Calderon specified air contaminants" that have been identified as priority TACs for landfills under State law (Health & Safety Code Section 41805.5). Chloroform is a one of the Calderon specified air contaminants, with the others being: vinyl chloride, benzene, ethylene dibromide, ethylene dichloride, methylene chloride, perchloroethylene, carbon tetrachloride, 1,1,1-trichloroethane, and trichloroethylene.

Available information indicates that the Calderon specified air contaminants (along with acrylonitrile, which is being added to the list of tested compounds in the MFR permit) include the TACs emitted from landfills that contribute most significantly to off-site health risks. This conclusion is based on measurements of emission concentrations of a large number of individual NMOC compounds in LFG (along with some inorganic compounds including mercury) compiled from a variety of landfills by US EPA (Compilation of Air Pollutant Emission Factors, AP-42), and using information regarding the toxicity of these compounds adopted by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA). We therefore believe that the gas characterization testing requirements specified in the proposed MFR Permit are adequate to assure compliance with the applicable standards.

Comment: Why are the tests from 1997 and 2000 different in the compounds tested? We would like to see all testing reports.

Response: Two different laboratories analyzed the 1997 and 2000 tests. Both contain results for the ten Calderon specified air contaminants required to be tested. The 2000 test results include a number of additional compounds that were not required to be tested.

The annual gas characterization and performance testing reports for the Keller Canyon Landfill are rather large documents. If you would like to review or obtain copies of these documents pursuant to the California Public Records Request Act, please follow the procedures given at our Web site (<http://www.baaqmd.gov/records/prs.htm>), or call (415) 749-4761 for more information.

Comment: Can you address tests of nitrogen, hydrocarbons, carbon monoxide, and total non-methane hydrocarbons. Do we have a safety net for the tests to let the public know of high counts?

Response: Nitrogen is not an air contaminant; it (or oxygen) is measured in LFG because it is an indicator of whether the collection system is resulting in excessive air infiltration through the landfill surface.

Carbon monoxide (CO) is a criteria air pollutant that is a product of incomplete combustion. The CO emissions from the flare are limited by permit condition and are subject to annual performance tests and continuous parametric monitoring. The emissions of CO from the flare are relatively low and are not expected to have any measurable effect on off-site ambient CO levels, which in an urban area are dominated by emissions from motor vehicles. The BAAQMD is an attainment area for all State and federal CO ambient air quality standards.

Hydrocarbons consist of methane and NMOCs. Methane is not a TAC, but may be a safety issue if it accumulates in structures on or off the landfill site. LFG collection systems must be designed to effectively capture methane generated within the landfill. Perimeter monitoring of soil gas is required under the RCRA Subtitle D regulations to verify that off-site methane migration does not occur.

NMOC emissions include a number of TACs. If gas characterization testing indicates that the concentration of a TAC exceeds levels specified in permit conditions, an additional screening HRA will be required. Depending on the results of such a risk screen, corrective action will be required if the health risks are determined to be unacceptable.

It should be noted that the primary health risks associated with LFG emissions are long-term chronic risks (e.g., excess cancer risk associate with a lifetime exposure). Available information (i.e., dispersion modeling-based HRAs, and perimeter ambient air monitoring conducted at a large number of landfills in California) indicates that short-term acute health risks associated with LFG emissions are not likely to be significant. This is particularly true for landfills like Keller Canyon that are equipped with well-designed LFG collection/control systems. This

means that if elevated levels of one or more TAC are detected in the LFG, corrective action can be taken before adverse health impacts are likely to occur. Accordingly, we do not believe that a system to warn the public of "high counts" is needed. All compliance reports submitted by the facility to the BAAQMD are available to any member of the public upon request.

Comment: A Health Risk Assessment (HRA) needs to be done for a 50-mile radius of the landfill. All facilities that are designated as high priority are required to prepare and submit to the BAAQMD a risk assessment in accordance with a specified schedule. The HRA must be reviewed by the California Department of Health Services and approved by the BAAQMD. We would like to see risk assessments for 1995 to 2001.

Response: An HRA (dated Nov. 1989) was prepared for the landfill in support of the original application to the BAAQMD for an Authority to Construct the landfill. A subsequent health risk screening analysis (dated Jan. 1995) was completed by the BAAQMD during the evaluation of the application for an Authority to Construct the LFG Collection/Control system for the Phase I Refuse Area. If you would like to review or obtain copies of these documents please submit a public records request to the BAAQMD.

Based on the current estimated TAC emissions from the Keller Canyon Landfill, the facility is not a high priority facility and an HRA is not required to be prepared under the Air Toxics Hot Spots (ATHS) Program (Health & Safety Code Sections 44300-44394). The BAAQMD will re-prioritize the facility on an annual basis when its emission inventory is updated to determine whether an HRA must be prepared under the ATHS Program.

We know of no requirement for the preparation of an HRA covering an area of 50 miles from a facility. The HRAs that have been conducted for landfills in the Bay Area indicate that TAC emissions from these facilities disperse rapidly in the ambient air downwind of the landfill; any elevated TAC concentrations are likely to be very localized.

Comment: A safety assessment should be done on a monthly basis. Is there an emergency warning system within the landfill in case of major health risk or danger?

Response: We know of no requirement for a safety assessment with regard to air emissions from this facility. The California Accidental Release Prevention (CalARP) Program (locally implemented and enforced by Contra Costa County) focuses on the identification of hazards within a facility that could result in a catastrophic release (e.g., a major uncontrolled emission, fire, or explosion). Facilities subject to these requirements must submit a Risk Management Plan (RMP), which is a detailed engineering analysis of the potential accident factors present at a facility and the mitigation measures that can be implemented to reduce this accident potential. It is our understanding that the Keller Canyon Landfill is not subject to the CalARP Program.

We know of no specific requirement for an emergency warning system within the landfill. Contra Costa County has a Community Warning System (CWS) that covers various types of incidents including toxic gas releases, flammable non-toxic hazardous releases, spills/plant upsets, fires/explosions, pipeline incidents, and transportation incidents. The CWS includes coordination among regulatory agencies and first responders (e.g., Contra Costa County Health Services, Office of Emergency Services, 911 dispatch centers, police departments including CHP, fire departments, and the BAAQMD), an automated telephone calling system, radio transmission of emergency messages to both the National Weather Service and to the Emergency Alert System (EAS), and sirens (one of which is located in an area north of the landfill).

Comment: What is really going into the landfill? How will this be controlled, and by what agency?

Response: The types of waste that may be disposed in the landfill are specified in the Solid Waste Facility Permit (SWFP) issued by Contra Costa County Environmental Health (the LEA). The SWFP also lists other regulatory documents that may include restrictions on waste discharge (e.g., Waste Discharge Requirements ordered by the Regional Water Quality Control Board [RWQCB]). Under the SWFP, the facility is permitted to accept municipal solid waste, commercial and industrial waste, geothermal wastes, drilling muds, agricultural wastes, cannery wastes, contaminated soils, filter cake/dewatered sludge, dewatered sewage sludge, shredder waste, construction and demolition wastes, and spent catalyst fines. Prohibited wastes include hazardous wastes, liquids or slurries (unless authorized by the RWQCB and LEA), septage, large dead animals or large quantities of small dead animals (except with the approval of the LEA), burning wastes, untreated medical waste, infectious waste, and other designated wastes not identified in the SWFP.

The LEA has the primary responsibility to enforce the SWFP, although other agencies also have regulatory authority (e.g., the California Integrated Waste Management Board (CIWMB), RWQCB, and the State Water Resources Control Board [SWRCB]). The SWFP contains a requirement for the facility to implement a hazardous waste screening program, and the LEA is required to conduct inspections of the facility on a monthly basis.

The BAAQMD has specific limitations on the aeration of Volatile Organic Compound (VOC) contaminated soils at landfills. The proposed MFR permit has conditions intended to improve compliance with emission standards related to the handling and disposal of VOC contaminated soils at the facility.

Comment: Does the landfill have a portable hydrocarbon detector? How often is this used? Is there a portable gas detector as prescribed in EPA Reference Method 21.

Response: Yes, the facility has a portable hydrocarbon detector. The facility also uses private contractors (that use their own detectors) to perform monthly inspections of the

wellheads, collection system components, and the control device. Contractors also use portable hydrocarbon detectors to complete quarterly grid sweeps of the landfill surface. The test method used with these portable detectors is EPA Method 21: Determination of Volatile Organic Leaks.

Comment: Are water discharge requirements being met and how often are these tested?

Response: The BAAQMD has no regulatory jurisdiction over water discharge requirements at the landfill. We recommend that you contact the RWQCB regarding this issue.

Comment: How much more of a health risk will occur with the power plant running? Will we have a chance for a public hearing on the power plant?

Response: The proposed resource recovery operation at the landfill is intended to burn LFG in three internal combustion engines for the purpose of producing electricity. The Authority to Construct issued by the BAAQMD for these engines requires that NMOCs in the LFG be reduced at least 97 percent. Because this required destruction efficiency is only slightly less than that of the existing flare (98 percent), the resource recovery project is not expected to result in a significant increase in TAC emissions. The engines are subject to similar performance testing and continuous parametric monitoring requirements as the existing flare.

During the evaluation of the application for Authority to Construct the LFG engines, the BAAQMD completed a health risk screening analysis that addressed TAC emissions from the project. As was the case for the screening HRA completed for the existing flare, the analysis completed for the engines indicated that the maximum public health risks associated with TAC emissions would be within acceptable levels.

The BAAQMD issued an Authority to Construct for the three LFG engines on May 27, 1999. In accordance with Health and Safety Code Section 42302.1, any request for a public hearing pertaining to the issuance of an Authority to Construct must be made within 30 days of permit issuance. Furthermore, no information has been presented suggesting that the Authority to Construct was improperly issued. The BAAQMD therefore does not plan on holding a public hearing for the proposed resource recovery project.

Comment: The BAAQMD should hold a public hearing regarding the proposed MFR Permit

Response: The BAAQMD received only two comment letters on the proposed MFR permit for the Keller Canyon Landfill (yours and one submitted by the facility). None of the comments submitted indicate that the proposed permit has omitted any existing air quality requirements

applicable to the regulated sources, or compliance provisions necessary to assure compliance with these requirements. The BAAQMD therefore does not believe that a public hearing on the MFR Permit is appropriate. We have agreed to participate in a multi-agency public meeting regarding environmental issues related to this facility.

P# 4618

Evelyn A. Freitas
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Tel: (925) 671-9674 Fax: (707) 988-2290

April 13, 2001

Ms. Brenda Cabral
Air Quality Engineer II
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Dear Ms. Cabral,

I am requesting a public hearing regarding the proposed application for Title V Permit, for the Keller Canyon Landfill Facility # A4618, application 17348, located at 901 Bailey Road, Pittsburg, California. Rule 3000 (a) Purpose reads in part "The Title V permit system is the air pollution control permit required to implement the Federal Operating Permit Program as required by Title V of the Federal Clean Air Act as amended in 1990. This regulation defines permit application and issuance procedures as well as compliance requirements procedures as well as compliance requirements associated with the program. Number 3 Affected States means all states: (A) whose air quality may be affected and that are contiguous to the state in which a Title V permit, permit revision or permit renewal is being proposed; or (B) that are within 50 miles of the permitted facility."

Under Title V, all permits, applications, monitoring and record keeping reports and annual compliance certifications must be made available to the public. The public also has the right to bring enforcement actions to compel compliance with Title V permit. April of 1995 resolution no. 95 - 52, "A resolution requesting that the Contra Costa County Board of Supervisors review the dumping of special wastes at the Keller Canyon Landfill.", was brought before the City of Concord, City Council. It passed by unanimous vote of the Council.

A wide variety of special and designated waste, many of them hazardous materials, at Keller Canyon Landfill, including medical wastes, dioxin, pcb, used needles, industrial waste, dead animals, dried leftover sewage, refinery ash, and byproducts, and contaminated soil. Given the increase in volumes of disposal of such wastes at Keller Canyon Landfill, the public has a right to protect and improve their health, safety and welfare.

Keller Canyon Landfill has also applied for a power plant application to be on-line this year. I have been asked to submit in writing the concerns we have regarding all of the above, so that a public meeting could be arranged.

One of our biggest concerns relates to the air testing methods and the lack of testing done on a regular basis. Tests need to be conducted once a week, at the least. I have documentation of air sampled October 18, 2000. On this laboratory analyses report, there are several chemicals that are classified as cancer causing. They are, Vinyl Chloride, Chloroethane, and Benzene. The report for 1997 showed 1,1 Trichloroethane, 1,2 Dichlororopropane, and Trichloroethene.

Hazardous air pollutants from the site are: (1) Vinyl Chloride, (2) Mek, (3) 1,1 - Dichloroethane, (4) Hexane, (5) 1,1,1, Trichloroethane, (6) Trichloroethene, (7) MIBK, (8) Ethylbenzene and (9) Oxylene. The tests also show a default concentration, for some of the compounds. We feel that testing needs to be done weekly and a Risk Assessment be done for the 50 mile radius of the landfill. A Safety Assessment should also be done on a monthly basis.

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The landfill should be tested for contaminants in addition to methane. Testing locations include points within the landfill, beneath the soil, at the landfill surface and in the outdoor air at the edge of the landfill. Any gas moving away from the landfill underground also should be tested. Air contaminants found beneath the soil should be tested. If the test indicates a risk to public health, then the EPA and California Integrated Waste Management Board should be investigating this site. Can these tests start soon?

Compounds not tested previously should be tested: Mercury, Dioxin, PCB, Chloroform, Asbestos. Can you test for these? The toxins, including dioxin, for which safe levels of exposure in humans have not been determined, can contribute to respiratory diseases or high rates of cancer. Chloroform is an identified carcinogen without an identifiable threshold. This comes from water chlorination processes including, sewage treatment plants, cooling towers, pulp and paper mills, and bleach used for domestic cleaning and laundry.

Trichloroethylene, is a carcinogen without an identifiable threshold. Available information indicates that degreasing operations are a major source of TCE emissions in California. Other sources of emissions include paints and coatings, adhesive formulations, sewage treatment plants, polyvinyl chloride production and solvent reclamation.

Asbestos, P.C.B. and Mercury, why are these not being tested? They need to be tested to insure the public is being protected from these pollutants. When can these tests be done?

Why are the tests from 1997 and 2000 different in the compounds tested? The results show discrepancies! We feel that the landfill testing and all concerned testing, related to the pollutants should be investigated. We would like to see all reports that are part of the Public Information Act.

Please address the tests of nitrogen, Hydrocarbons, carbon monoxide and total non-methane hydrocarbons into the atmosphere. Do we have a safety net for these tests to let the public be aware of high counts?

All facilities that are designated as high priority are required to prepare and submit to the district a health risk assessment in accordance with a specified schedule. The risk assessment must be reviewed by the California Department of Health Services and approved by the district.

We would like to see the Risk Assessments for 1995 to 2001 Do these exist?

Landfills where gases were detected should be further investigated to see if they pose a threat to public health, through the use of education and guidelines developed in cooperation with the air pollution control districts. Have gases been detected underground? Tests have shown gas moving underground away from landfills! Are tests being done? Can they be done? Are you working with California Integrated Waste Management Board in investigating potential problems?

What is really going into this special waste landfill? How will this be controlled, and by what agency's?

I am sure that there are more questions regarding this. Sunday April 29th is Earth Day. I plan on being at the Chronicle Pavilion at Concord, and handing out our letter of concerns and talking with the people in the surrounding

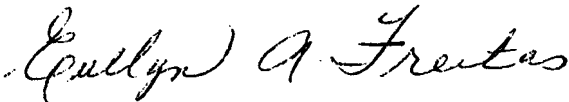
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Does the landfill have a portable Hydrocarbon detector?, (8-34-504) How often is this tested? Is there a portable gas detector as prescribed in EPA reference method 21. (Section 8-34-602)? Is there an emergency warning system, with the landfill, in case of major health risk or danger? Are the water discharge requirements being met and how often are these tested?

How much more of a health risk will occur if the power plant is running? Will we have a chance for a public hearing on the power plant?

Please let us know as soon as possible when we will have a public meeting on the above.

Sincerely,



Evelyn A. Freitas

cc: George W. Bush, George Miller, Ellen Tauscher, Tom Torlakson, Mark DeSaulnier, Donna Gerber, Gayle Uilkema, Lynne Leach, Joe Canciamilla, Jack Chang, Glenn May, Ed James, San Francisco EPA, California Regional Water Quality Board - San Francisco Region, Linda Moulton-Patterson, Marcus O'Connell, Judi Kleckner, Fancie Price, D. Larson